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(54) **METHOD AND SYSTEM FOR COOLING AND WASHING BIOMASS SYNGAS**

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(58) **Field of Classification Search**

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See application file for complete search history.

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(57) **ABSTRACT**

A method for cooling and washing biomass syngas, the method including the following steps: 1) introducing biomass syngas having a temperature of between 1000 and 1100° C., a dust content of less than 20 g/Nm³, and a tar content of less than 3 g/Nm³ to a quench tower for condensing a slag; 2) introducing the biomass syngas after slag condensation to a waste heat boiler for recovering waste heat and condensing a heavy tar in the syngas; 3) introducing the biomass syngas from the waste heat boiler to a scrubbing-cooling tower for removing dust and decreasing a temperature of the syngas; and 4) introducing the biomass syngas after dust removal and temperature decrease from the scrubbing-cooling tower to an electro-precipitator for further removal of the dust and the tar.

13 Claims, 12 Drawing Sheets

